

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application:

1. (Currently Amended) A gateway for scheduling over the air transmissions of data content, said gateway comprising:

a processing system; and

a memory coupled to the processing system;

said processing system comprising:

a network inbound queue for the reception of instructions from a content provider related to data content;

a scheduler for processing said instructions from the content provider to determine broadcast times and schedule for said data content to be received by a digital radio broadcast receiver of a user, said scheduler determining said broadcast times and schedule ~~without user-selected input regarding transmission priority or delivery instructions based upon said instructions from the content provider without any user request for said data content;~~

~~a data processor~~ an encoder for encoding said data content for digital radio broadcast transmission;

an addressing module for processing said instructions from the content provider for extracting addressing information; and

an outbound queue for storing said encoded data content.

2. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a device profile database, said device profile database holding profiles associated with IBOC enabled consumer devices, and each of said profiles defining one or more specific data content formats for said broadcast transmission via said outbound queue to one or more clients.

3. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 2, wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

4. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises an identification (ID)

processor for extracting a unique ID associated with a sender of said instructions, assigning a unique ID associated with Push transmissions, and storing said unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

5. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises an authenticator for authenticating a sender of said instructions.

6. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 4, comprising a network outbound queue, said network outbound queue transmitting data content to said sender of said instructions.

7. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 6, wherein said digital radio broadcast transmission is an in-band on-channel (IBOC) digital radio broadcast transmission.

8. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources.

9. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 8, wherein said queues comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

10. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a cache for holding said data content to be broadcast.

11. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said instructions comprise precompiled binary data for transmission.

12. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said scheduler further processes information defining various time zones for broadcasting said encoded data content.

13. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said instructions include a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

14. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 13, wherein said identifier is an URI or a numeric value.

15. (Canceled)

16. (Currently Amended) A gateway for scheduling over the air transmissions of data content, as per ~~claim 15~~ claim 1, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

17. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), or wireless access protocol.

18. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said data content is in any of the following formats: binary, plain text, HTML, XML, or WML.

19. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

20. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway is networked for synchronized scheduling with one or more similar gateways.

21. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said instructions further include any of the following:

time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

22. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway receives data content over a network.

23. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 22, wherein said network comprises any of the following: local area network, wide area network, wireless network, or Internet.

24. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a network database identifying other databases from which information can be received.

25. (Previously Presented) A gateway for scheduling over the air transmissions of data content, as per claim 1, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

26. (Previously Presented) A method for scheduling over the air transmissions via a gateway, said method comprising the steps of:

- a. receiving instructions from a content provider relating to broadcast of data content;
- b. authenticating said content provider;
- c. processing said instructions from the content provider to determine broadcast times for said data content to be received by a digital radio broadcast receiver of a user, the broadcast times being determined ~~without user-selected input regarding transmission priority or delivery instructions~~ based upon said instructions from the content provider without any user request for said data content;
- d. receiving said data content via a network;
- e. encoding said data content for digital radio broadcast transmission, and
- f. storing said encoded data content.

27. (Currently Amended) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said method further comprises the step of accessing a subscription profile database to identify one or more specific data content formats associated with said one or more clients.

28. (Currently Amended) A method for scheduling over the air transmissions via a gateway, as per claim 27, wherein ~~said method further comprises the step of receiving a request from one or more of said clients identifying said one or more specific data content formats associated with data content~~ wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

29. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

30. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said method further comprises the step of maintaining a cache for holding said encoded data content for transmission.

31. (Currently Amended) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said ~~communication comprises~~ instructions comprise a unique identifier, said identifier used in targeting encoded data to a specific client.

32. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 31, wherein said identifier is an URI or a numeric value.

33. (Currently Amended) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said ~~communication comprises~~ instructions comprise information defining various time zones for broadcasting encoded data content.

34. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said method further comprises the step of converting said data content into a specific format.

35. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 34, wherein said specific format is any of the following: plain text, binary data, HTML, WML, or XML.

36. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said network comprises any of the following: local area

network (LAN), wide area network (WAN), wireless networks, HFC Network, LMDS satellite network, or the Internet.

37. (Cancelled)

38. (Cancelled)

39. (Currently Amended) An article of manufacture comprising a computer usable readable medium having computer readable program code embodied ~~therein~~ therein, for scheduling over the air transmissions via a gateway, ~~said computer readable program code being adapted to a cause gateway, that causes~~ a processing system to:

- a. receive instructions from a content provider relating to broadcast of data content;
- b. authenticate said content provider;
- c. process said ~~communication~~ instructions from the content provider to determine broadcast times for said data content to be received by a digital radio broadcast receiver of a user, the broadcast times being determined ~~without user selected input regarding transmission priority or delivery instructions~~ based upon said instructions from the content provider without any user request for said data content;
- d. receive said data content via a network;
- e. encode said data content for digital radio broadcast transmission, and
- f. store said encoded data content.

40. (Previously Presented) An article of manufacture comprising a computer usable medium having computer readable program code embodied therein for scheduling over the air transmissions via a gateway, as per claim 39, wherein said article further comprises computer readable program code adapted to cause a processing system to encode said data content in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

41-64. (Canceled)

65. (Previously Presented) A method for scheduling over the air transmissions via a gateway, as per claim 26, wherein said method further comprises transmitting said encoded data via IBOC radio broadcast transmission to clients based upon said broadcast times and said addressing information.

66. (Currently Amended) A system for scheduling over the air transmissions of data content, comprising:

a gateway for scheduling over the air transmissions of data content according to claim 1; and

a content provider center configured to communicate with an ~~application service provider, said content provider center configured to process instructions from said application service provider for processing said data content~~ said gateway.

67. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a subscription client device profile database, said subscription client device profile database holding profiles associated with said clients, and each of said profiles defining one or more specific data content formats for said broadcast transmissions via said outbound queue to one or more consumer client devices.

68. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 67, wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

69. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises identification (ID) processor for extracting a unique ID associated with a sender of said instructions, assigning a unique ID associated with Push transmissions, and storing said unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

70. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 69, wherein said gateway further comprises an authenticator for authenticating a sender of said instructions.

71. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 69, further comprising a network outbound queue, said network outbound queue transmitting data content to said sender of said instructions.

72. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 71, wherein said digital radio broadcast transmission is an in-band on-channel (IBOC) digital radio broadcast transmission.

73. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources.

74. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 73, wherein said queues comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

75. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a cache for holding said data content to be broadcast.

76. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions comprise precompiled binary data for transmission.

77. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said scheduler further processes information defining various time zones for broadcasting said encoded data content.

78. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions include a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

79. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 78, wherein said identifier is an URI or a numeric value.

80. (Canceled)

81. (Currently Amended) A system for scheduling over the air transmissions of data content, as per ~~claim 80~~ claim 66, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

82. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), wireless access protocol, satellite networks, or wireless access protocol.

83. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said data content is in one of the following formats: binary, plain text, HTML, XML, or WML.

84. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

85. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway is networked for synchronized scheduling with one or more similar gateways.

86. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said instructions further include any of the following: time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

87. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway receives data content over a network and said network comprises any of the following: local area network, wide area network, wireless network, HFC networks or Internet.

88. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a network database identifying other databases from which information can be received.

89. (Previously Presented) A system for scheduling over the air transmissions of data content, as per claim 66, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.